COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

FACT SHEET FOR AMENDMENT NO. 1

CITY OF STERLING WWTF

CDPS PERMIT NUMBER CO-0026247, LOGAN COUNTY

I. TYPE OF PERMIT — Major Amendment #1

II. FACILITY INFORMATION

A. Facility Type: Domestic- Major Municipal, Mechanical Plant

B. Facility Classification: Class B per Section 100.5.2 of the Regulations for Certification of Water Treatment Plant and Wastewater Treatment Plant Operators.

C. Fee Category 1: Domestic Wastewater – Mechanical Plant, Category 21, Subcategory 7
Category Flow Range: Sewage from 2,500,000 up to 9,999,999 gpd
Annual Fee: $11,410 effective July 1, 2007
Amendment Fee: $0.00

D. Legal Contact:
Joseph D. Kiolbasa, City Manager
City of Sterling
421 N. 4th Street
Sterling, CO 80751
970-522-9700

E. Facility Contact:
Tim Peake, Operator in Responsible Charge
City of Sterling WWTF
15956 County Road 370
Sterling, CO 80751
970-522-4804

F. Facility Location: 15956 County Road 370, Sterling, CO, 80751
Latitude:103° 8’ 15.9” West, Longitude: 40° 39’ 49” North

D. Discharge Point:

001A, at the pump station and force main following the chlorine contact chamber and dechlorination but prior to entering the South Platte River, 40 39’15” North Latitude, 103 07’ 30” West Longitude

002A, at the pump station and force main following the chlorine contact chamber and dechlorination but prior to entering the recharge basins, 40 39’15” North Latitude, 103 07’ 30” West Longitude

050A, 050C, 050D, 050F- the four downgradient monitoring wells around the recharge basins located on the south side of the South Platte River.

The location(s) provided above will serve as the point(s) of compliance for this permit and are appropriate as they are located after all treatment and prior to discharge to the receiving water.

III. PURPOSE OF AMENDMENT

In modification form received by the Division on November 26, 2012, the City of Sterling (the City) requested numerous modifications to their permit. The requests are summarized as follows:

1. The City requests compliance schedules to meet E. coli and TRC limitations.
2. The City requests a compliance schedule to meet T.I.N. limitations.
3. The City requests that the total coliform limitations be eliminated from down-gradient monitoring wells.
4. The City requests that the classification of the facility return to a mechanical plant instead of the new lagoon classification.
5. The City requests that the monitoring frequency requirements established in the permit be modified to reflect expected flows rather than design capacity.
6. The City requests that ammonia and TRC limitations be removed from discharges to the recharge basins.
7. The City requests that the maximum effluent TDS concentration limit for the down-gradient wells be recalculated to take into account ambient groundwater concentrations.

IV. CHANGES MADE AS A RESULT OF THE AMENDMENT

Request 1: The City requests compliance schedules to meet *E. coli* and TRC limitations.

According to the Fact Sheet, previous monitoring for fecal coliform indicated that the limitation for *E. coli* can be met. Additionally, the Division has reviewed recent DMR reports and the set limitations have been fully met. Therefore, no compliance schedule will be allowed for *E. coli*. For TRC at 002A, previous monitoring indicates that the new limitation (with the change in limitation for TRC to 0.5 mg/l as per Request 6) will be met. A compliance schedule will not be allowed for TRC.

A compliance schedule for TRC at Outfall 001A has been added to the permit in Part 1.A.2 and Part I.B.6 of the permit. The compliance schedule duration will be two years and interim limits will be set at the previous permit limitations. A compliance schedule for *E. coli* will not be added to the permit, as the permittee has had only one violation for *E. coli*. The Division feels that with a compliance schedule for TRC, the permittee should be able to meet limitations for both TRC and *E. coli*.

Request 2: The City requests a compliance schedule to meet T.I.N. limitations.

The original Fact Sheet and Permit were supposed to include a compliance schedule, therefore a compliance schedule will be added to the permit. **With this change, a T.I.N. compliance schedule was added to outfall 002A in Part 1.A.2 and Part I.B.6 of the permit.** See Response 3 for more information on Outfall 002A.

Request 3: The City requests that the total coliform limitations be eliminated from down-gradient monitoring wells.

E. coli limitations are part of the surface water standards; total coliform limitations are a part of the ground water standards. Total coliform limitations must remain on the down-gradient monitoring wells because the *E. coli* limitations are not protective of the total coliform standards. However, the Division will remove the *E. coli* standards from the monitoring requirements prior to the recharge basins, as the total coliform limitations are protective of the *E. coli* standards. **With this change, a second outfall 002A has been added to the permit that only applies to the recharge basins, separating the requirements for discharge out of Outfall 001A (South Platte River) and Outfall 002A to recharge basins for protection of South Platte River recharge. Part I.A.1 of the permit will reflect this change.**

Request 4: The City requests that the classification of the facility return to a mechanical plant instead of the new lagoon classification.

As the primary treatment of the facility is mechanical, the Division agrees to this request. Therefore, the limitations and reporting frequency for TSS will change. Also, the fee for this permit has also increased to reflect this change. **With this change, TSS limitations and monitoring frequency will change in Part I.A.2 and Part I.A.3.**

Request 5: The City requests that the monitoring frequency requirements established in the permit be modified to reflect expected flows rather than design capacity.

The Division has reviewed the data and concurs with this request. Monitoring frequencies will be based off the average expected flow instead of design capacity (approximately 1.5 MGD vs. 2.68 MGD). **With this change, monitoring frequencies will change in Part I.A.2 and Part I.A.3 of the permit.**

Request 6: The City requests that ammonia and TRC limitations be removed from discharges to the recharge basins.

Considering the length of time (between one month and five years) it takes for water discharged to the recharge basins to reach the South Platte River, the Division will grant the request that ammonia limitations are removed from Outfall 002A (please see Response 3 for more information on Outfall 002A). Instead a report only requirement will be added to the permit. TRC is to be applied, at the very least, as a technology based effluent limitation (TBEL). Therefore the TBEL will be applied to Outfall 002A instead of the WQBEL. **With this change, TRC limitations will change to Report for the 30-day average and 0.5 mg/L for the daily maximum in Part I.A.2 of the permit. Ammonia limitations will be replaced with Report Only for Outfall 002A in Part I.A.2 of the permit.**

Request 7: The City requests that the maximum effluent TDS concentration limit for the down-gradient wells be recalculated to take into account ambient groundwater concentrations.

According to Regulation 41.12 and Table 4 in Regulation 41, the limit for ambient quality between 0 and 500 mg/l is either 400 mg/l or 1.25x the ambient, whichever is greater. After eliminating one significant outlier (greater than 1700 mg/l) from the available data (see table below), all data points from the up-gradient well 050B are 280 mg/l or below. If the highest value is used, the result is 280 x 1.25 = 350 mg/l. The 400 mg/l is greater and therefore the limit must remain at 400 mg/l.

Date	TDS in mg/l
3/2006	180
6/2006	145
8/2006	170
10/2006	193
3/2007	150
4/2007	200
7/2007	220
10/2007	1760
3/2008	166
4/2008	180
7/2008	182
11/2008	173
3/2009	174
4/2009	180
8/2009	180
11/2009	170
3/2010	190
4/2010	165
9/2010	280
10/2010	236

The permittee also submitted additional data during the public comment period. The Division deemed the data irrelevant as the data were collected from wells not hydrologically upgradient from the facility. **The compliance schedule will be extended to October 31, 2016 to allow time for the installation of and data collection from upgradient wells in the vicinity of the facility in Part 1.A.2 and Part I.B.6 of the permit.**

Lori Mulsoff
February 4, 2013

V. PUBLIC NOTICE COMMENTS

Public comment period took place between February 15, 2013 and March 18, 2013. The following is a summary of comments that were received.

From the City of Sterling:

Comment 1: The original permit became effective on March 1, 2012 and since that time the Sterling wastewater treatment facility effluent has exceeded the E. coli and TRC limits on multiple occasions. In response to the these exceedances as reported in DMRs, the CDPHE issued a Compliance Advisory letter to the City dated June 26, 2012 citing the alleged violations. The City responded to the CDPHE with a letter dated July 16, 2012. A similar Compliance Advisory letter dated December 14, 2012 was also issued by the CDPHE. The City again responded with a letter dated December 27, 2012. Copies of both Compliance Advisory letters and the City's response letters are attached for reference (see Attachment A).

The Sterling wastewater treatment facility is not designed to achieve simultaneous compliance with the E. coli and TRC limits stipulated in the new permit. Both the chlorine and the sulfur dioxide feed capacities are inadequate to consistently meet these permit limits given the size and configuration of the existing chlorine contact basin. In addition the disinfection chemical feed facilities are controlled manually and precise control of chemical feed rates with changing wastewater flow rates and water quality is not possible.

Therefore, the City requests that the amended permit be revised to include a schedule for achieving compliance with the E. coli and TRC effluent limits associated with Permitted Feature 001A.

Response 1: This request has been addressed in this permitting action. A compliance schedule for TRC at Outfall 001A has been added to the permit. The compliance schedule duration will be two years and interim limits will be set at the previous permit limitations. A compliance schedule for *E. coli* has not been granted, as the permittee has had only one violation for *E. coli*. Modifying the permit to incorporate a two year compliance schedule for TRC should ensure compliance with limitations for both TRC (interim limits) and *E. coli*., while giving the facility additional time to manage and/or modify treatment to achieve simultaneous compliance with e.coli and the final TRC limitation.

Comment 2: The City requested that the total coliform bacteria limits be eliminated from monitoring wells (Permitted Features 050A, 050C, 050D, and 050F) down-gradient from the recharge basins. The Fact Sheet prepared in conjunction with the draft amended permit indicates that the total coliform bacteria limits must remain because maximum total coliform concentrations are part of the basic groundwater standards.

The City understands the necessity of establishing effluent limits to protect groundwater quality standards. Given the necessity and applicability of this requirement, the City requests that the 30-day average total coliform limit of 2.2 organisms/100 mL at Permitted Features 050A, 050C, 050D, and 050F be stipulated as a geometric mean rather than an arithmetic average. The geometric mean applies to other microbiological effluent limits in the permit and the City believes it should appropriately be applied to the average total coliform limits as well.

Response 2: Per Regulation No. 41, *The Basic Standards for Ground Water*, the total coliform must be calculated as an arithmetic average. No changes to this calculation type are warranted at this time.

Comment 3: The City requests that the TDS limits in the down-gradient monitoring wells be revised to more accurately reflect the ambient groundwater TDS levels in the surrounding area as determined from a series of representative groundwater monitoring points in the general area of the recharge basins.

If the TDS limits in the down-gradient monitoring wells cannot be changed in accordance with this request, the City requests that the schedule for achieving compliance with the down gradient monitoring well TDS limits be extended until at least October 31, 2017 to give the City more time to address this very complex and challenging compliance issue.

Response 3: The data provided to the Division for consideration in determining ambient TDS concentrations are not hydrologically upstream of the facility. Only permitted feature 050B is upstream of the facility and is therefore the only existing source of background data for the area. The Division will grant an extension to the current compliance schedule to October 31, 2016. This is intended to allow time for the installation of and subsequent data collection from additional upstream wells in the vicinity of the facility.

Comment 4: The discharge point (Permit Feature) described as "at the pump station and force main following the chlorine contact chamber" is characterized as Permitted Feature 001in Part I.A.1. In subsequent sections of the permit it is referred to as Permitted Feature 001A. Permitted Feature 002A is not listed in Part I.A.1 of the permit but it is referenced in subsequent sections of the permit.

Response 4: The changes will be made as requested.

Comment 5: Permitted Feature 300I is not listed in Part I.A.1 of the permit but it is referenced in subsequent sections of the permit.

Response 5: Permitted Feature 300I is not typically listed in Part I.A.1 of the permit. No changes will be made.

Comment 6: The City has been monitoring Chlordane monthly as require by the existing permit for over a year. All monitoring results indicate that the Chlordane levels in the Sterling wastewater treatment facility effluent are consistently below the Practical Quantitation Limit (PQL) for this parameter (see Attachment C). Therefore, the City requests that the monitoring frequency for Chlordane be changed from monthly to annually in the amended permit. The City has been monitoring Ethylhexyl phthalate (Bis-2) monthly for over a year in both the plant effluent and in the down-gradient monitoring wells as required by the existing permit. All monitoring results indicate that the Ethylhexyl phthalate (Bis-2) levels in the effluent and in the monitoring wells are consistently below the PQL for this parameter (see Attachment D). Therefore, the City requests that the monitoring frequency for Ethylhexyl phthalate (Bis-2) be changed from monthly to annually in the amended permit.

Response 6: This comment is outside of this modification. Only the items addressed in the modification (and subsequent public notice) are eligible for changes in this permitting action. Should the City wish to pursue a Reasonable Potential analysis and a reduction in the sampling frequency for these parameters, a separate modification request should be submitted to the Division.